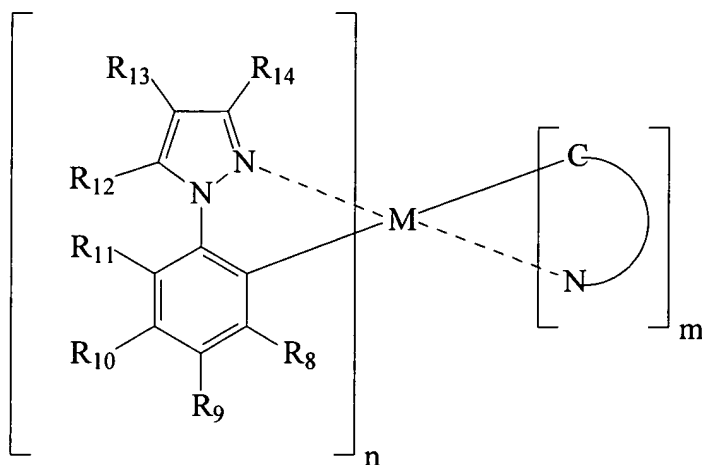


Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original): A compound, having the structure:



wherein

M is a metal having an atomic weight greater than 40;

(C-N) is a substituted or unsubstituted cyclometallated ligand, and (C-N) is different from at least one other ligand attached to the metal;

each R is independently selected from hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF₃, CO₂R, C(O)R, NR₂, NO₂, OR, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl, or a heterocyclic group;

additionally or alternatively, any two adjacent substituted positions together form, independently, a fused 4- to 7-member cyclic group, wherein said cyclic group is cycloalkyl, cycloheteroalkyl, aryl, or heteroaryl, and wherein the 4- to 7-member cyclic group may be optionally substituted with substituent R;

m has a value of at least 1;

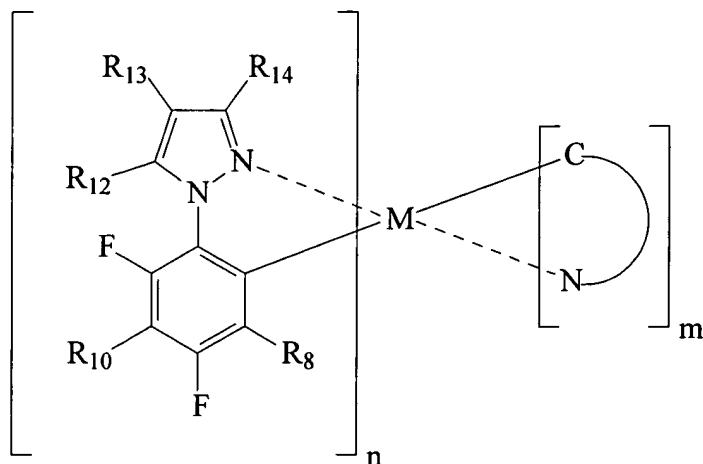
n has a value of at least 1; and

m + n is the maximum number of ligands that may be attached to the metal.

Claim 2 (original): The compound of claim 1, wherein n is 2.

Claim 3 (original): The compound of claim 2, wherein each ligand is organometallic.

Claim 4 (currently amended): The compound of claim 1, having the structure:



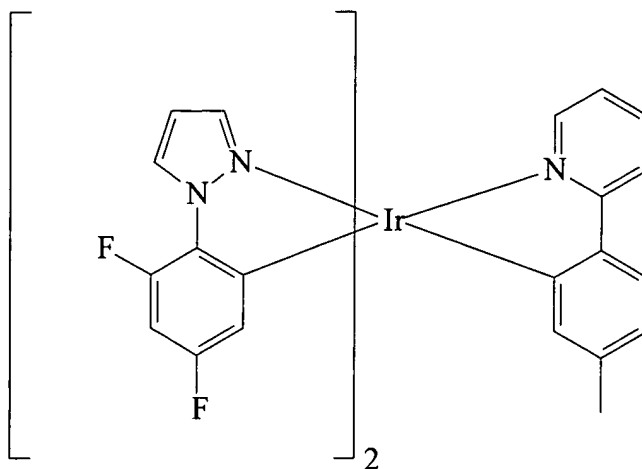
Claim 5 (original): The compound of claim 4, wherein M is selected from the group consisting of Ir, Pt, Pd, Rh, Re, Ru, Os, Tl, Pb, Bi, In, Sn, Sb, Te, Au, and Ag.

Claim 6 (original): The compound of claim 5, wherein M is Ir.

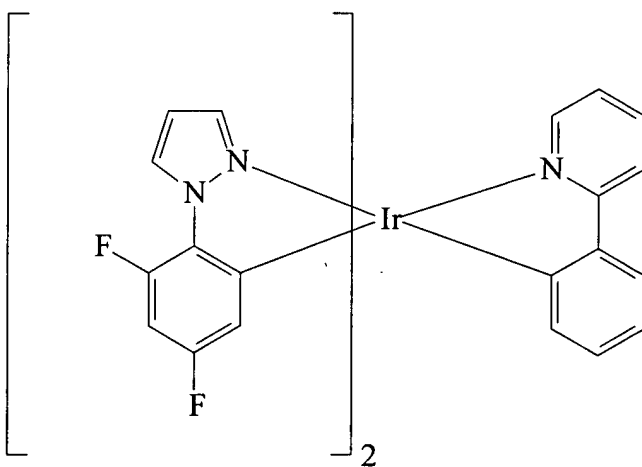
Claim 7 (original): The compound of claim 6, wherein R₈, R₁₀, and R₁₂-R₁₄ are H.

Claim 8 (original): The compound of claim 7, wherein n is 2 and m is 1.

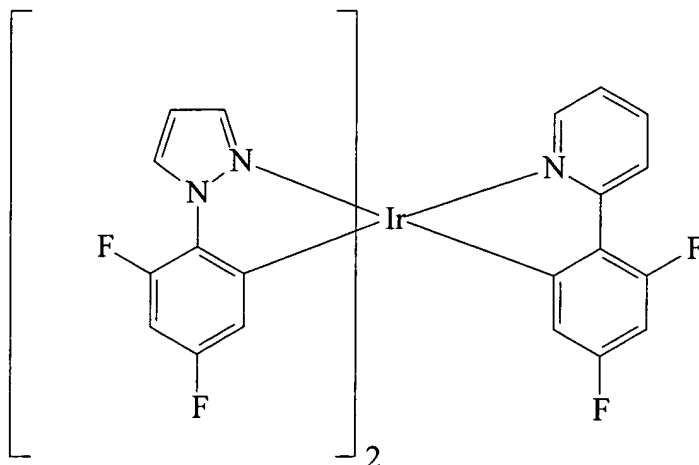
Claim 9 (currently amended): The compound of claim 8, having the structure:



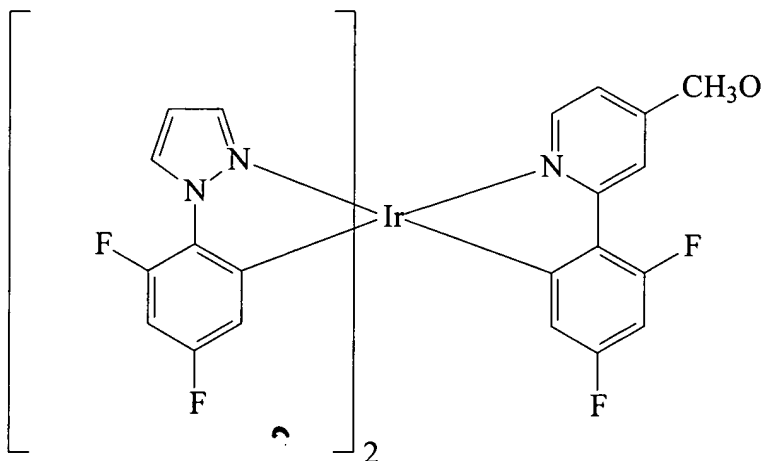
Claim 10 (currently amended): The compound of claim 8, having the structure:



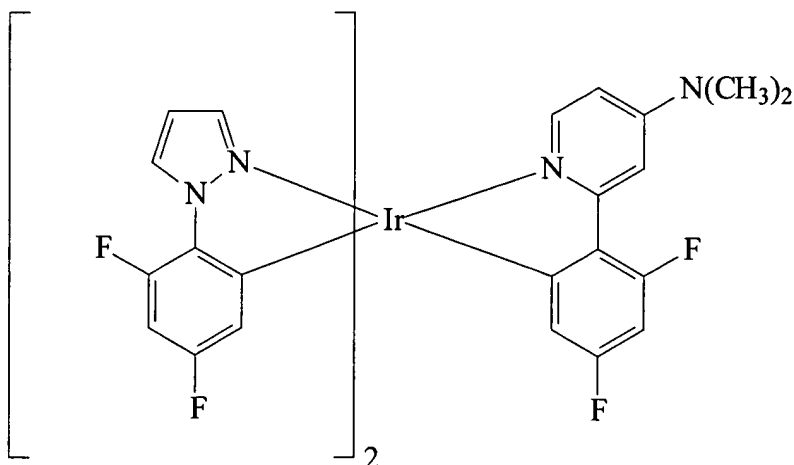
Claim 11 (currently amended): The compound of claim 8, having the structure:



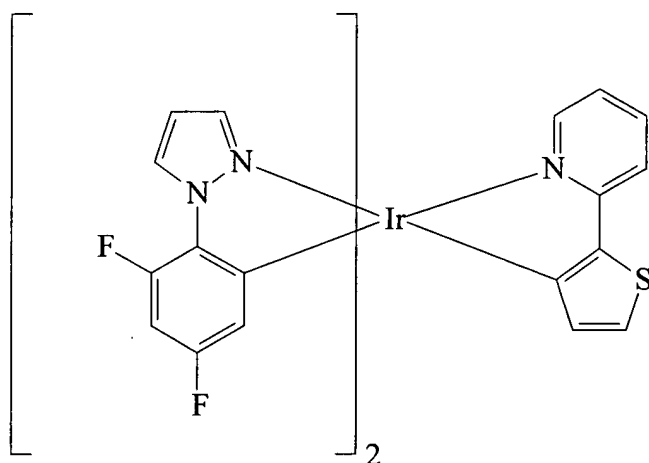
Claim 12 (currently amended): The compound of claim 8, having the structure:



Claim 13 (currently amended): The compound of claim 8, having the structure:



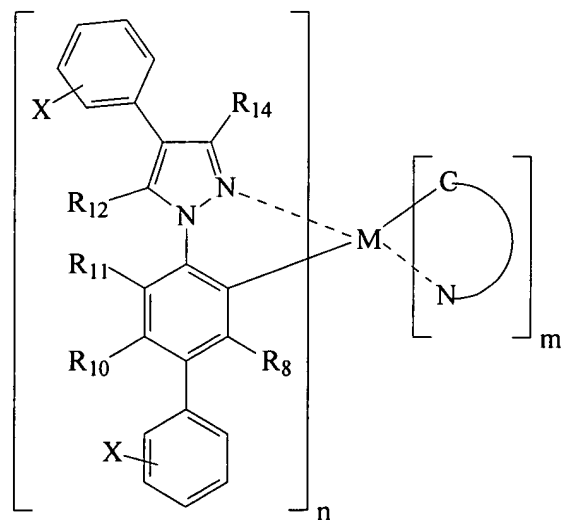
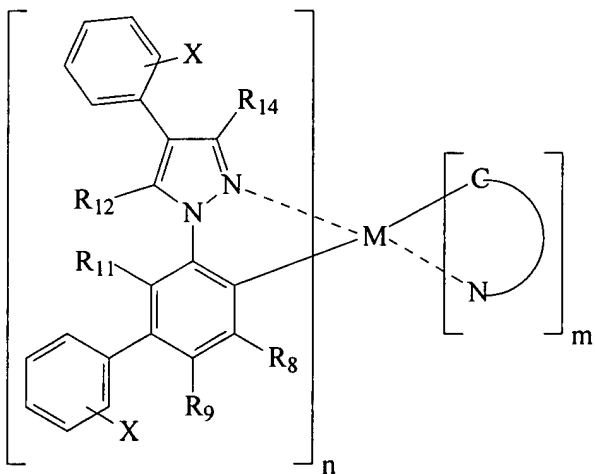
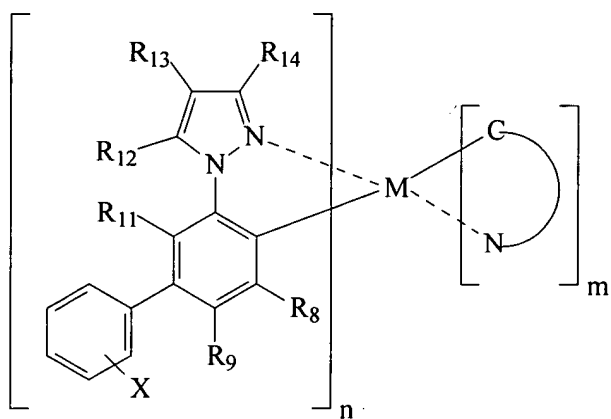
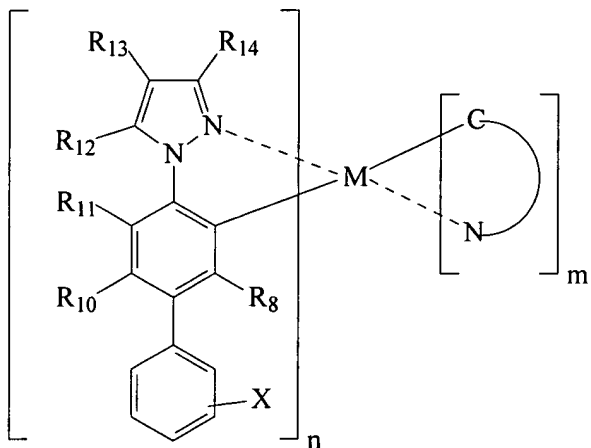
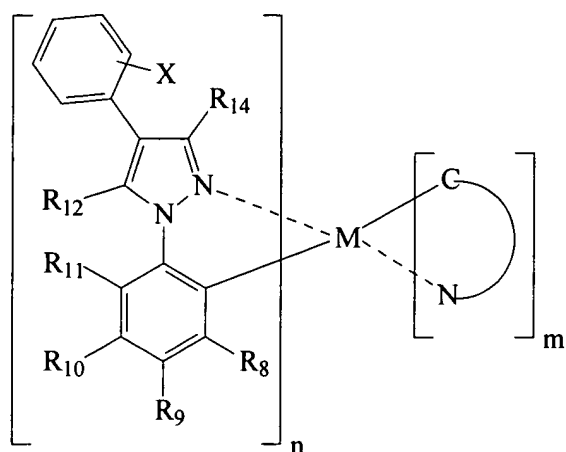
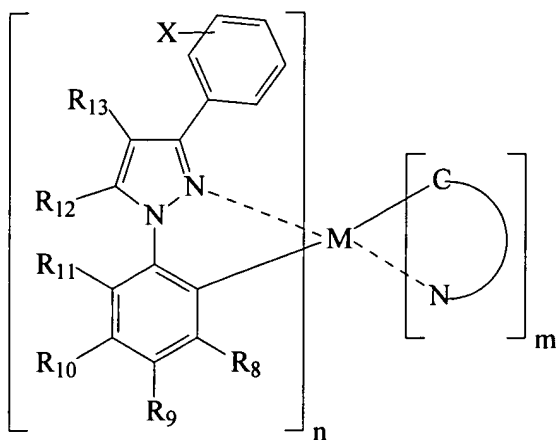
Claim 14 (currently amended): The compound of claim 8, having the structure:



Claim 15 (original): The compound of claim 1, wherein substituent groups are independently selected from substituted or unsubstituted phenyl, naphthyl, or pyridyl .

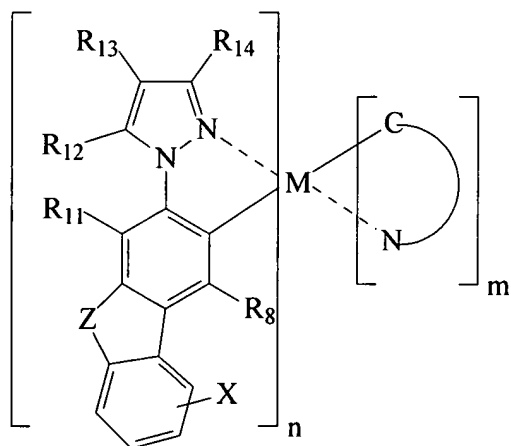
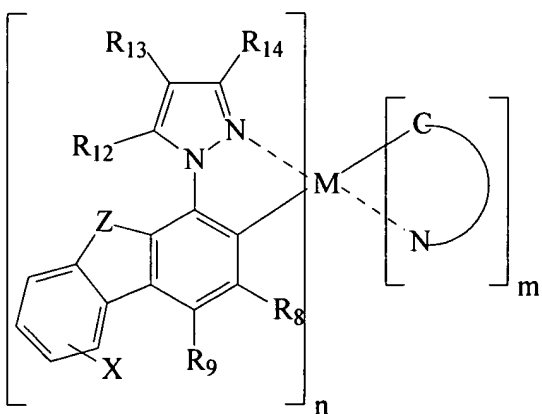
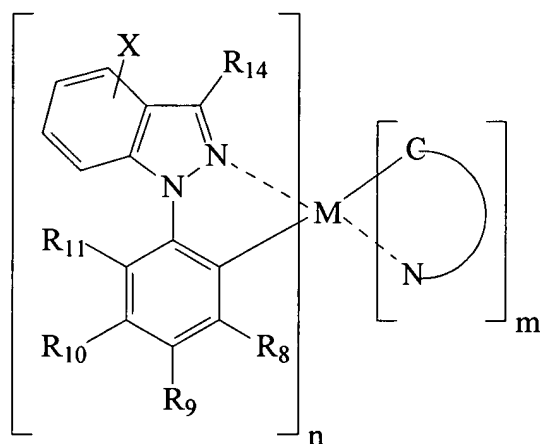
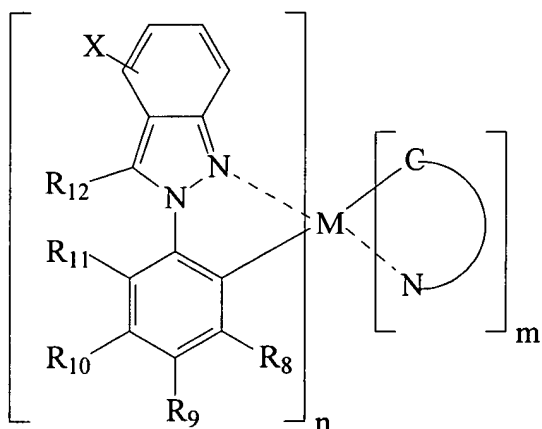
Claim 16 (original): The compound of claim 15, wherein at least one substituent group is phenyl.

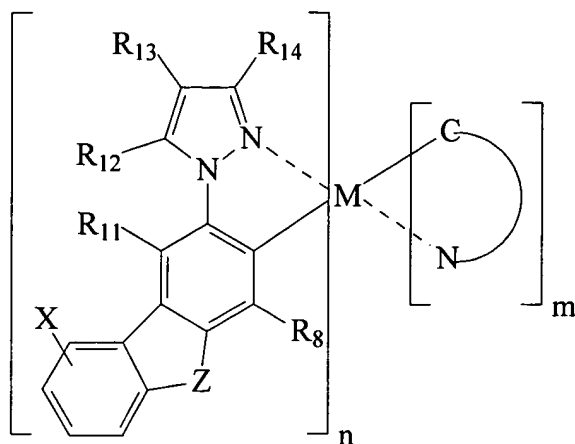
Claim 17 (original): The compound of claim 16, wherein the compound has a structure selected from the group consisting of:



wherein X is independently selected from hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF₃, CO₂R, C(O)R, NR₂, NO₂, OR, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl, or a heterocyclic group;
additionally or alternatively, any two adjacent substituted positions together form, independently, a fused 4- to 7-member cyclic group, wherein said cyclic group is cycloalkyl, cycloheteroalkyl, aryl, or heteroaryl, and wherein the 4- to 7-member cyclic group may be further substituted by substituent X.

Claim 18 (original): The compound of claim 1, wherein the compound has a structure selected from the group consisting of:

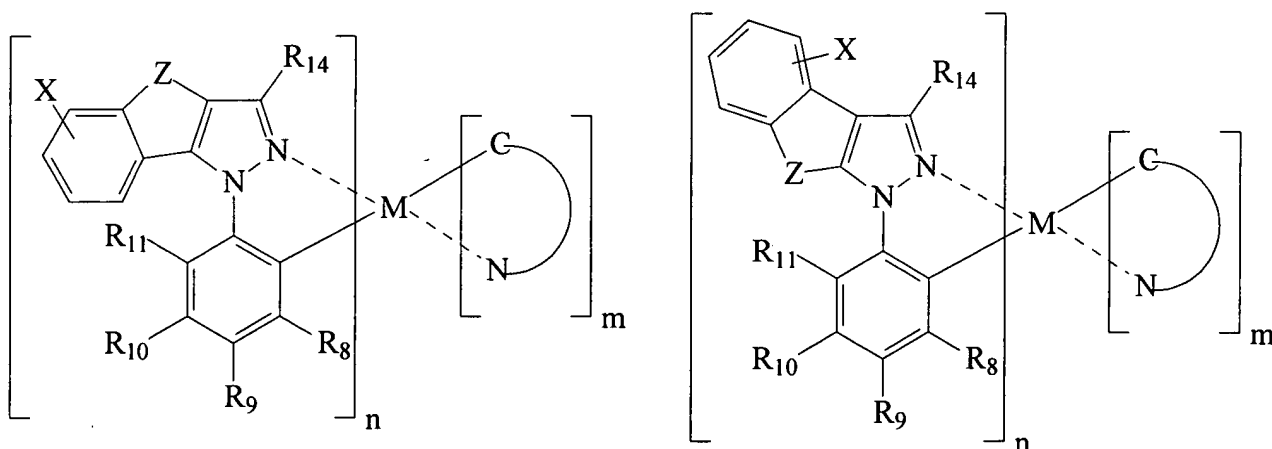


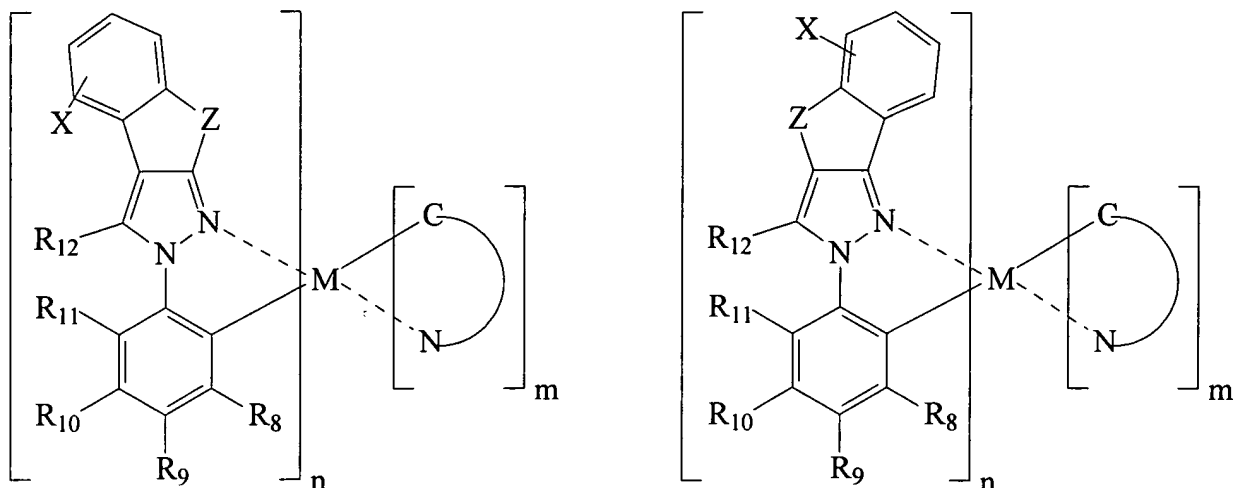


wherein

X is independently selected from hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF₃, CO₂R, C(O)R, NR₂, NO₂, OR, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl, or a heterocyclic group;
additionally or alternatively, any two adjacent substituted positions together form, independently, a fused 4- to 7-member cyclic group, wherein said cyclic group is cycloalkyl, cycloheteroalkyl, aryl, or heteroaryl, and wherein the 4- to 7-member cyclic group may be further substituted by substituent X;
Z is selected from -CH₂, -CRR, -NH, -NR, -O, -S, -SiR.

Claim 19 (currently amended): The compound of claim 18, wherein the compound has a structure selected from the group consisting of:



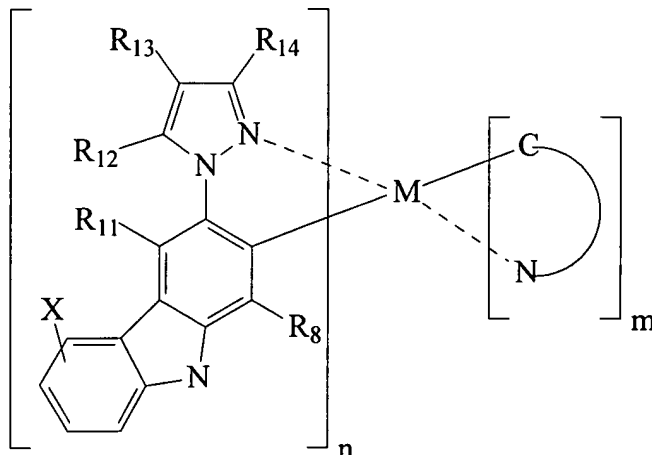


Claim 20 (original): The compound of claim 1, wherein the compound is a phosphorescent emissive material.

Claim 21 (original): The compound of claim 1, wherein at least one ligand is a phosphorescent emissive ligand at room temperature and at least one ligand is not a phosphorescent emissive ligand at room temperature.

Claim 22 (original): The compound of claim 1, wherein the compound emits at a peak wavelength less than 480 nm.

Claim 23 (original): A compound, having the structure:



M is a metal having an atomic weight greater than 40;
(C-N) is a substituted or unsubstituted cyclometallated ligand;
each R is independently selected from hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CF₃, CO₂R, C(O)R, NR₂, NO₂, OR, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl, or a heterocyclic group;
additionally or alternatively, any two adjacent substituted positions together form, independently, a fused 4- to 7-member cyclic group, wherein said cyclic group is cycloalkyl, cycloheteroalkyl, aryl, or heteroaryl, and wherein the 4- to 7-member cyclic group may be optionally substituted with substituent R or CN;
X is independently selected from hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF₃, CO₂R, C(O)R, NR₂, NO₂, OR, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl, or a heterocyclic group;
n has a value of at least 1; and
m + n is the maximum number of ligands that may be attached to the metal.

Claim 24 (original): The compound of claim 23, wherein n is 3 and m is zero.

Claim 25 (original): The compound of claim 24, wherein M is selected from the group consisting of Ir, Pt, Pd, Rh, Re, Ru, Os, Tl, Pb, Bi, In, Sn, Sb, Te, Au, and Ag.

Claim 26 (original): The compound of claim 25, wherein M is Ir.

Claim 27 (original): The compound of claim 26, wherein R₈, and R₁₁-R₁₄ are H.

Claim 28 (original): A compound, comprising:

a metal bonded to a first ligand that is emissive at room temperature,
wherein
exactly one of the first ligand is bonded to the metal, and
the first ligand has a triplet energy corresponding to a wavelength that is at least 80 nm greater than the wavelength corresponding to the triplet energy of every other ligand bound to the metal, and

the metal has an atomic weight greater than 40.

Claim 29 (currently amended): A The compound of claim 28, wherein the first ligand is organometallic.

Claim 30 (currently amended): A The compound of claim 28, wherein the first ligand has a triplet energy corresponding to a wavelength less than 480 nm.

Claim 31 (currently amended): A The compound of claim 28, wherein the first ligand has a triplet energy corresponding to a wavelength of 500-520 nm.

Claim 32 (currently amended): A The compound of claim 28, wherein the first ligand has a triplet energy corresponding to a wavelength greater than 590 nm.

Claim 33 (original): A compound, comprising:
a metal M bonded to at least a first ligand and a second ligand,
wherein
each ligand is organometallic, and
the first ligand has a triplet energy corresponding to a wavelength that is at least 80 nm greater than the wavelength corresponding to the triplet energy of the second ligand, and
M is a metal having an atomic weight greater than 40.

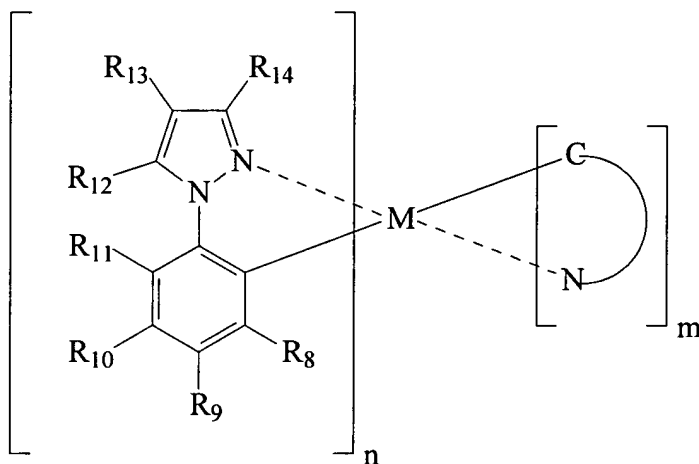
Claim 34 (currently amended): A The compound of claim 33, wherein the first ligand has a triplet energy corresponding to a wavelength less than 480 nm.

Claim 35 (currently amended): A The compound of claim 33, wherein the first ligand has a triplet energy corresponding to a wavelength of 500-520 nm.

Claim 36 (currently amended): A The compound of claim 33, wherein the first ligand has a triplet energy corresponding to a wavelength greater than 590 nm.

Claim 37 (original): An organic light emitting device, comprising:

- (a) an anode;
- (b) a cathode; and
- (c) an emissive layer disposed between and electrically connected to the anode and the cathode, the emissive layer further comprising a compound having the structure



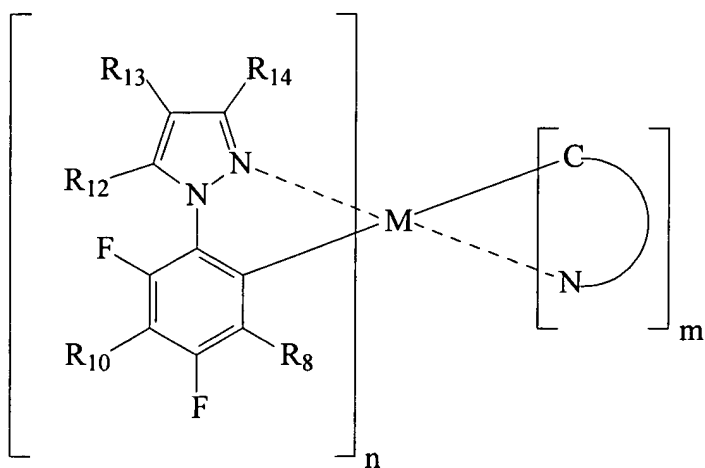
wherein

- M is a metal having an atomic weight greater than 40;
- (C-N) is a substituted or unsubstituted cyclometallated ligand, and (C-N) is different from at least one other ligand attached to the metal;
- each R is independently selected from hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF₃, CO₂R, C(O)R, NR₂, NO₂, OR, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl, or a heterocyclic group;
- additionally or alternatively, any two adjacent substituted positions together form, independently, a fused 4- to 7-member cyclic group, wherein said cyclic group is cycloalkyl, cycloheteroalkyl, aryl, or heteroaryl, and wherein the 4- to 7-member cyclic group may be optionally substituted with substituent R;
- m has a value of at least 1;
- n has a value of at least 1; and
- m + n is the maximum number of ligands that may be attached to the metal.

Claim 38 (original): The device of claim 37, wherein n is 2.

Claim 39 (original): The device of claim 38, wherein each ligand is organometallic.

Claim 40 (currently amended): The device of claim 37, having the structure:



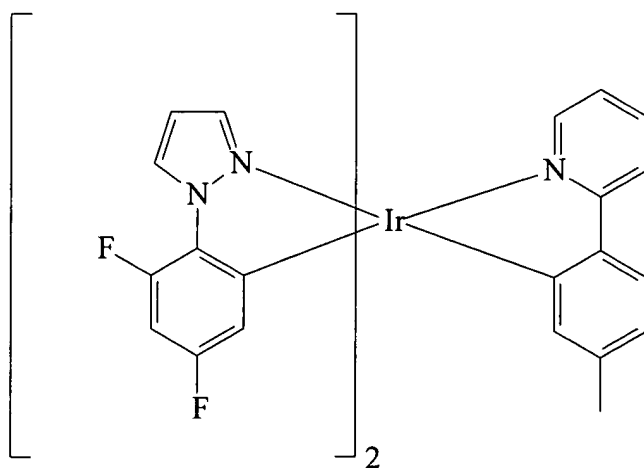
Claim 41 (original): The device of claim 40, wherein M is selected from the group consisting of Ir, Pt, Pd, Rh, Re, Ru, Os, Tl, Pb, Bi, In, Sn, Sb, Te, Au, and Ag.

Claim 42 (original): The device of claim 41, wherein M is Ir.

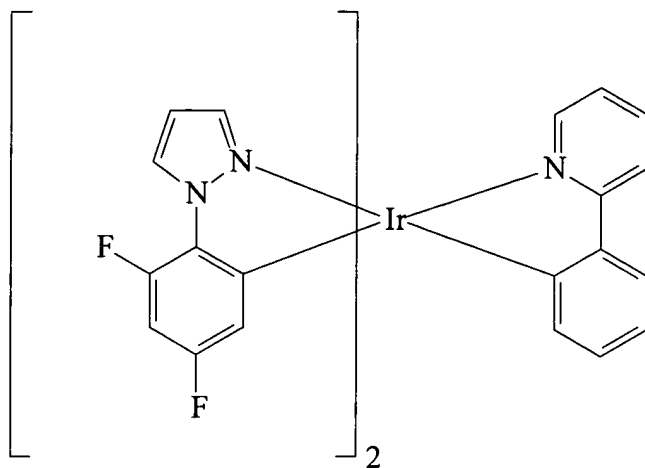
Claim 43 (original): The device of claim 42, wherein R8, R10, and R12-R14 are H.

Claim 44 (original): The device of claim 43, wherein n is 2 and m is 1.

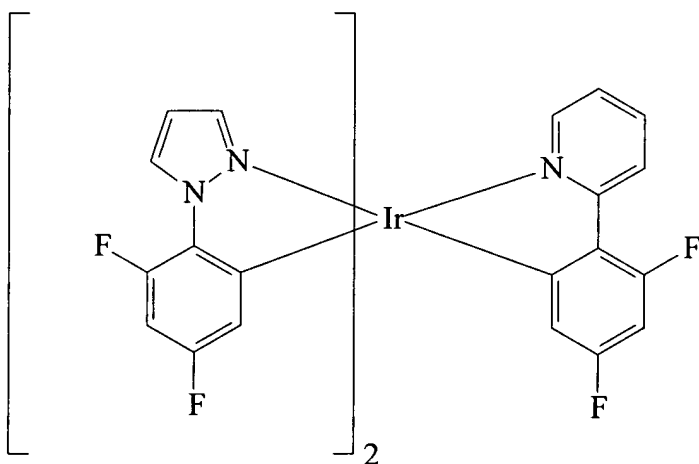
Claim 45 (currently amended): The device of claim 44, having the structure:



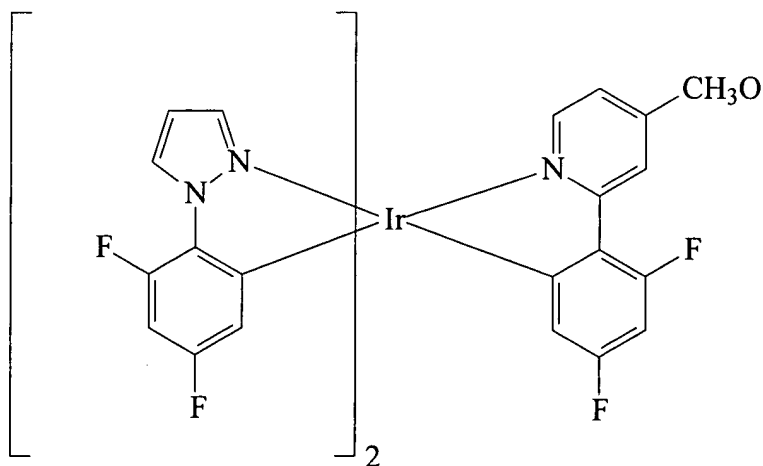
Claim 46 (currently amended): The device of claim 44, having the structure:



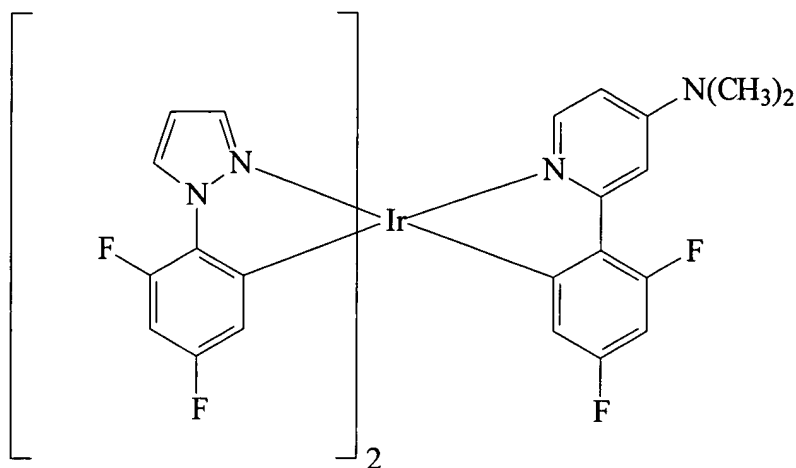
Claim 47 (currently amended): The device of claim 44, having the structure:



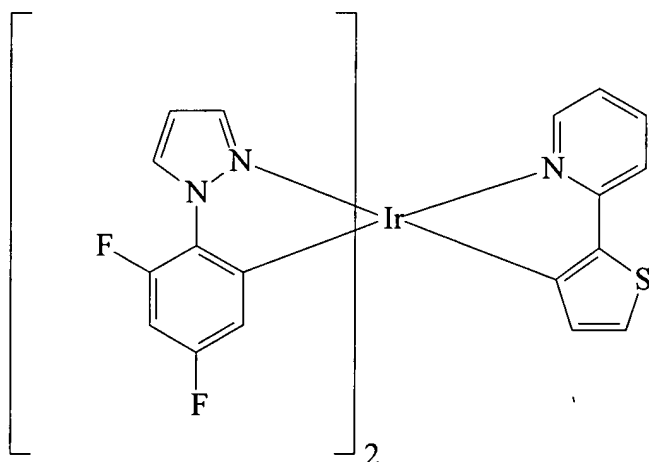
Claim 48 (currently amended): The device of claim 44, having the structure:



Claim 49 (currently amended): The device of claim 44, having the structure:



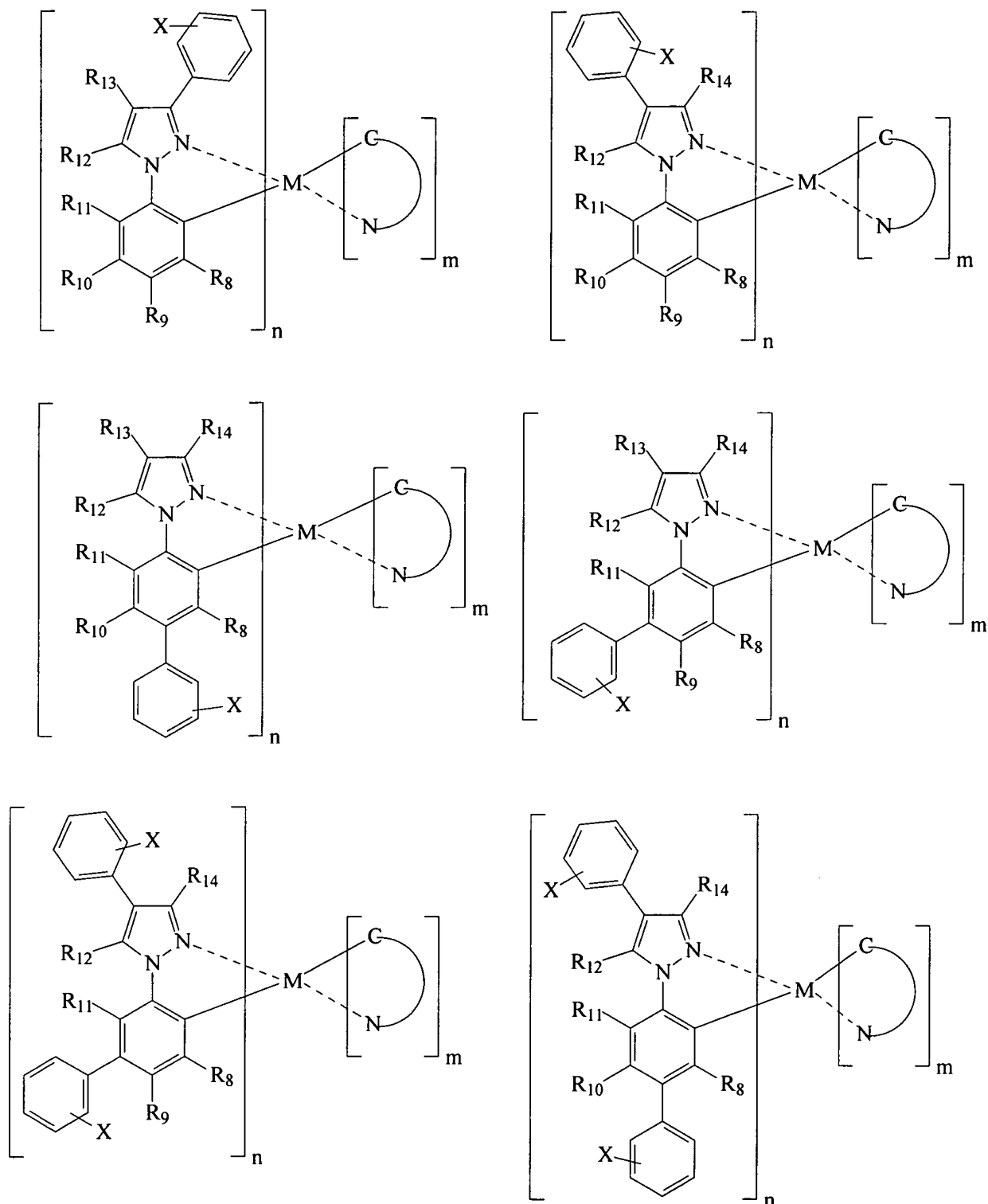
Claim 50 (currently amended): The device of claim 44, having the structure:



Claim 51 (original): The device of claim 37, wherein substituent groups are independently selected from substituted or unsubstituted phenyl, naphthyl, or pyridyl .

Claim 52 (original): The device of claim 51, wherein at least one substituent group is phenyl.

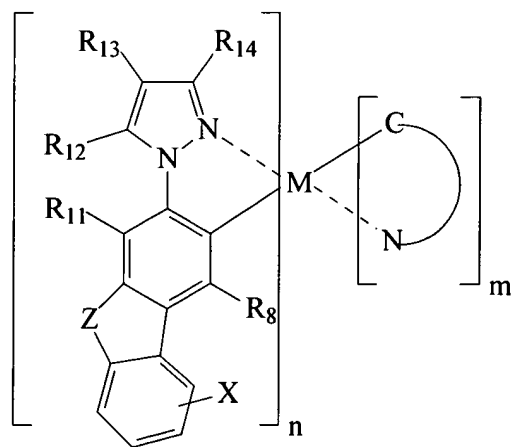
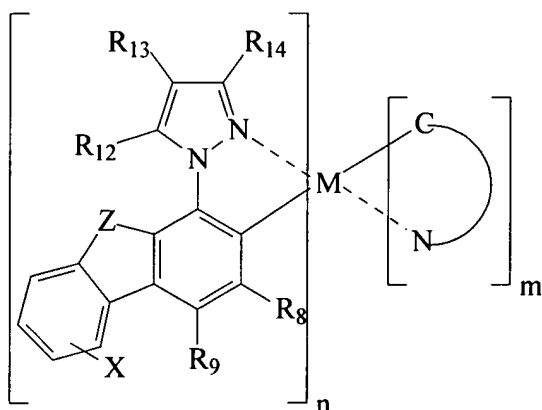
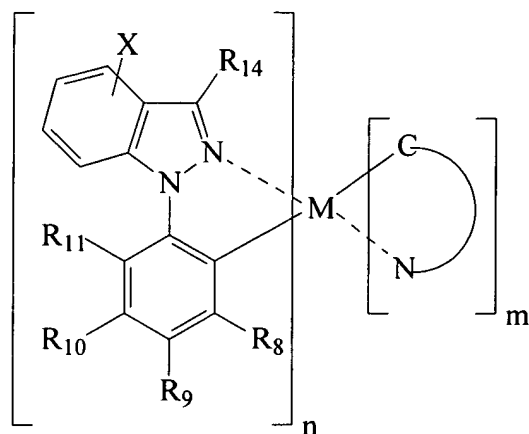
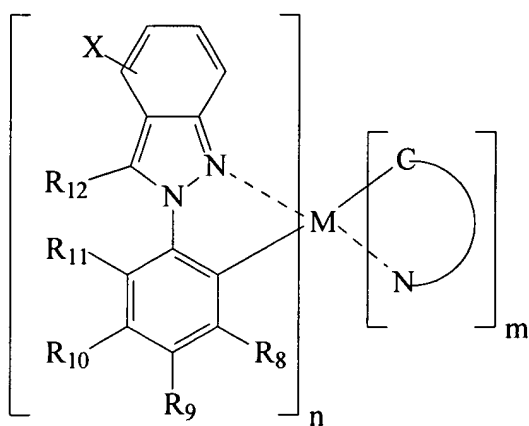
Claim 53 (original): The device of claim 52, wherein the device has a structure selected from the group consisting of:

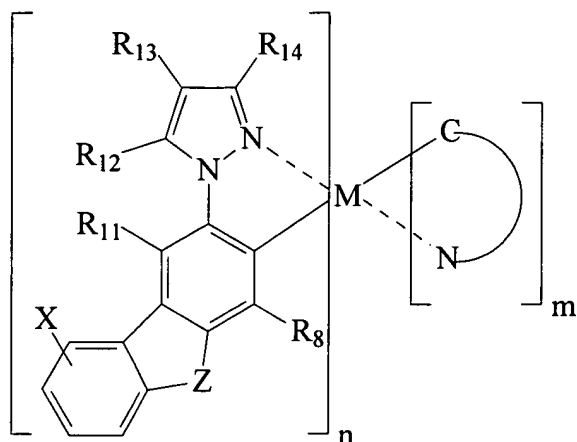


wherein X is independently selected from hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF_3 , CO_2R , $C(O)R$, NR_2 , NO_2 , OR, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl, or a heterocyclic group;

additionally or alternatively, any two adjacent substituted positions together form, independently, a fused 4- to 7-member cyclic group, wherein said cyclic group is cycloalkyl, cycloheteroalkyl, aryl, or heteroaryl, and wherein the 4- to 7-member cyclic group may be further substituted by substituent X.

Claim 54 (original): The device of claim 37, wherein the device has a structure selected from the group consisting of:

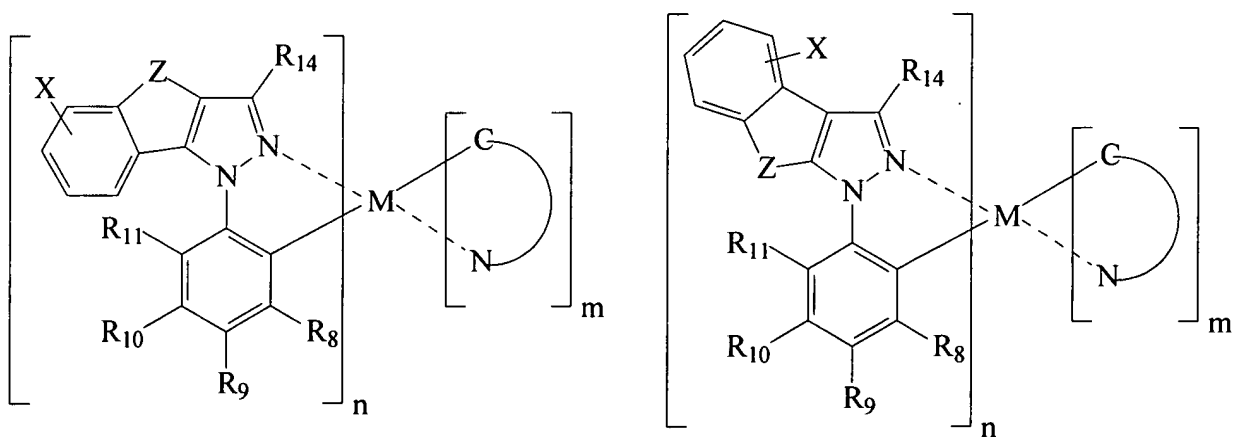


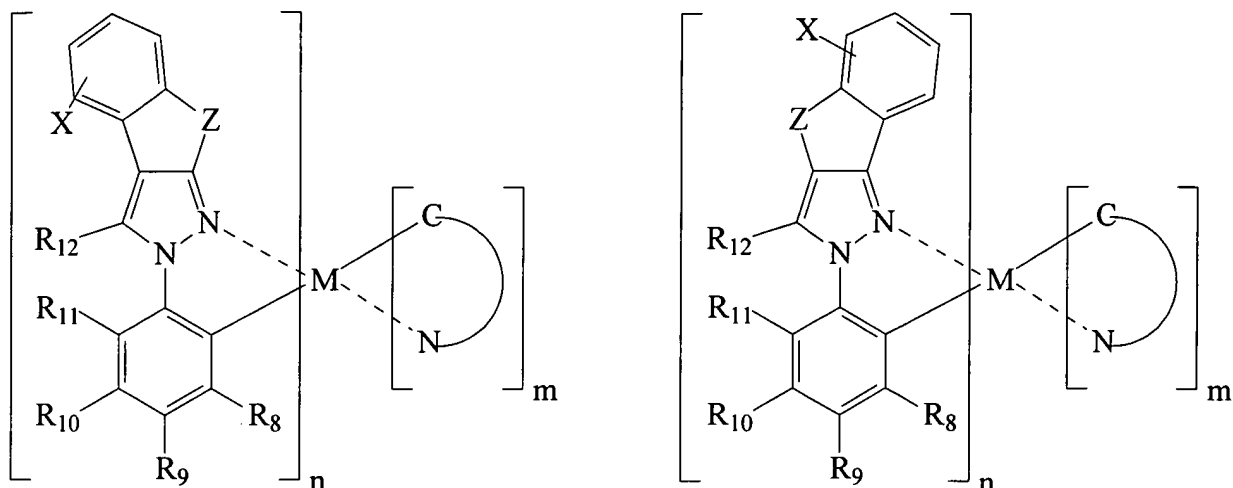


wherein

X is independently selected from hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF₃, CO₂R, C(O)R, NR₂, NO₂, OR, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl, or a heterocyclic group;
additionally or alternatively, any two adjacent substituted positions together form, independently, a fused 4- to 7-member cyclic group, wherein said cyclic group is cycloalkyl, cycloheteroalkyl, aryl, or heteroaryl, and wherein the 4- to 7-member cyclic group may be further substituted by substituent X;
Z is selected from -CH₂, -CRR, -NH, -NR, -O, -S, -SiR.

Claim 55 (currently amended): The device of claim 54, wherein the compound has a structure selected from the group consisting of:





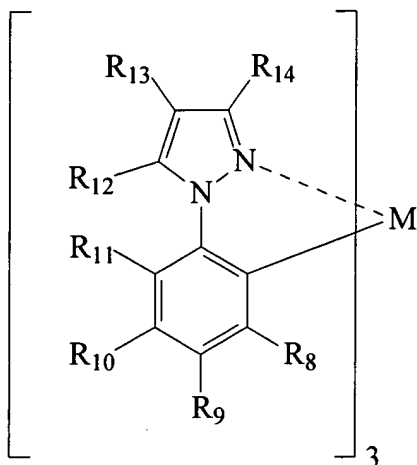
Claim 56 (original): The device of claim 37, wherein the compound is a phosphorescent emissive material.

Claim 57 (original): The device of claim 37, wherein at least one ligand is a phosphorescent emissive ligand at room temperature and at least one ligand is not a phosphorescent emissive ligand at room temperature.

Claim 58 (original): The device of claim 37, wherein the compound emits at a peak wavelength less than 480 nm.

Claim 59 (original): An organic light emitting device, comprising:

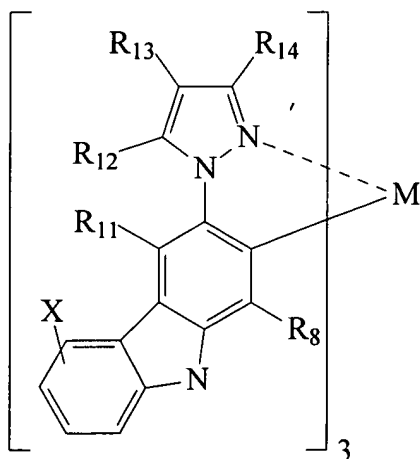
- (a) an anode;
- (b) a cathode; and
- (c) an emissive layer disposed between and electrically connected to the anode and the cathode, the emissive layer further comprising a compound having the structure:



wherein

M is a metal having an atomic weight greater than 40;
each R is independently selected from hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CF₃, CO₂R, C(O)R, NR₂, NO₂, OR, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl, or a heterocyclic group;
additionally or alternatively, any two adjacent substituted positions together form, independently, a fused 4- to 7-member cyclic group, wherein said cyclic group is cycloalkyl, cycloheteroalkyl, aryl, or heteroaryl, and wherein the 4- to 7-member cyclic group may be optionally substituted with substituent R and CN.

Claim 60 (currently amended): A The device of claim 59, having the structure:



wherein

X is independently selected from hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF₃, CO₂R, C(O)R, NR₂, NO₂, OR, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl, or a heterocyclic group.

Claim 61 (original): The device of claim 60, wherein M is selected from the group consisting of Ir, Pt, Pd, Rh, Re, Ru, Os, Tl, Pb, Bi, In, Sn, Sb, Te, Au, and Ag.

Claim 62 (original): The device of claim 61, wherein M is Ir.

Claim 63 (original): The device of claim 62, wherein R₈, and R₁₁-R₁₄ are H.

Claim 64 (original): An organic light emitting device, comprising:

- (a) an anode;
- (b) a cathode; and
- (c) an emissive layer disposed between and electrically connected to the anode and the cathode, the emissive layer further comprising a compound having the structure:
a metal bonded to a first ligand that is emissive at room temperature,
wherein
exactly one of the first ligand is bonded to the metal, and
the first ligand has a triplet energy corresponding to a wavelength that is at least 80 nm greater than the wavelength corresponding to the triplet energy of every other ligand bound to the metal, and
the metal has an atomic weight greater than 40.

Claim 65 (original): The device of claim 64, wherein the first ligand is organometallic.

Claim 66 (currently amended): ~~A~~ The device of claim 64, wherein the first ligand has a triplet energy corresponding to a wavelength less than 480 nm.

Claim 67 (currently amended): A The device of claim 64, wherein the first ligand has a triplet energy corresponding to a wavelength of 500-520 nm.

Claim 68 (currently amended): A The device of claim 64, wherein the first ligand has a triplet energy corresponding to a wavelength greater than 590 nm.

Claim 69 (original): An organic light emitting device, comprising:

- (a) an anode;
- (b) a cathode; and
- (c) an emissive layer disposed between and electrically connected to the anode and the cathode, the emissive layer further comprising a compound having the structure:
a metal M bonded to at least a first ligand and a second ligand,
wherein
each ligand is organometallic, and
the first ligand has a triplet energy corresponding to a wavelength that is at least 80 nm greater than the wavelength corresponding to the triplet energy of the second ligand, and
M is a metal having an atomic weight greater than 40.

Claim 70 (currently amended): A The device of claim 69, wherein the first ligand has a triplet energy corresponding to a wavelength less than 480 nm.

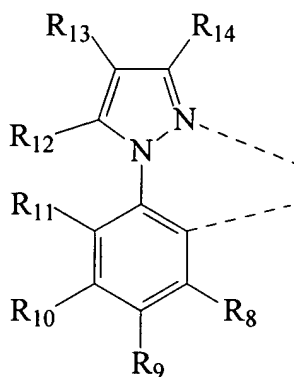
Claim 71 (currently amended): A The device compound of claim 69, wherein the first ligand has a triplet energy corresponding to a wavelength of 500-520 nm.

Claim 72 (currently amended): A The device of claim 69, wherein the first ligand has a triplet energy corresponding to a wavelength greater than 590 nm.

Claim 73 (original): The device of claim 69, wherein the device is incorporated into a consumer product.

Claim 74 (original): An organic light emitting device, comprising:

- (a) an anode;
- (b) a cathode; and
- (c) an emissive layer disposed between and electrically connected to the anode and the cathode, the emissive layer further comprising a compound having a ligand with the structure:

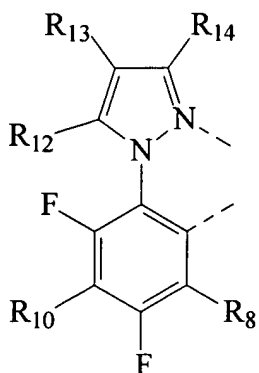


wherein

each R is independently selected from hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF₃, CO₂R, C(O)R, NR₂, NO₂, OR, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl, or a heterocyclic group;

additionally or alternatively, any two adjacent substituted positions together form, independently, a fused 4- to 7-member cyclic group, wherein said cyclic group is cycloalkyl, cycloheteroalkyl, aryl, or heteroaryl, and wherein the 4- to 7-member cyclic group may be optionally substituted with substituent R.

Claim 75 (currently amended): The device of claim 74, wherein the ligand has the structure:

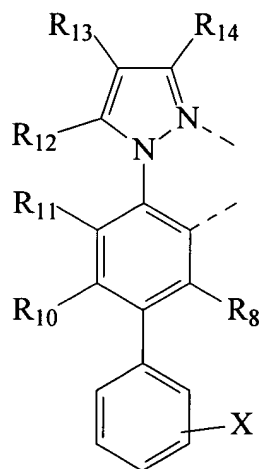
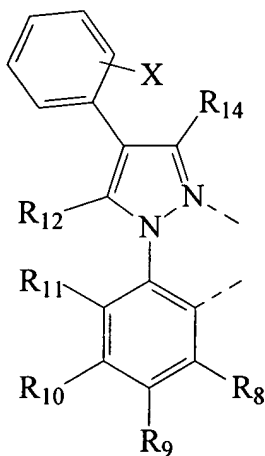
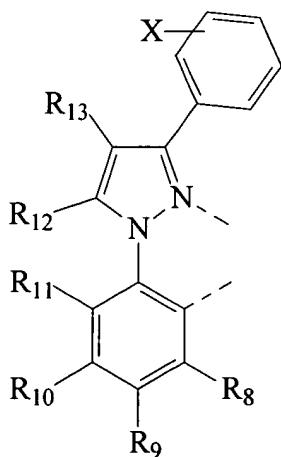


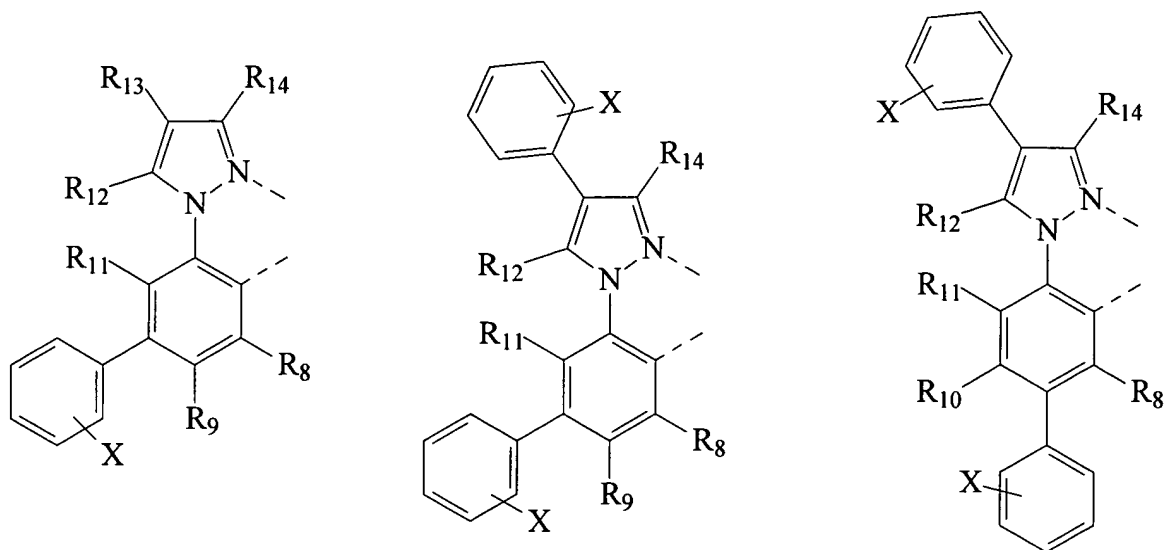
Claim 76 (original): The device of claim 75, wherein R_8 , R_{10} , and R_{12} - R_{14} are H.

Claim 77 (original): The device of claim 74, wherein substituent groups are independently selected from substituted or unsubstituted phenyl, naphthyl, or pyridyl.

Claim 78 (original): The device of claim 77, wherein at least one substituent group is phenyl.

Claim 79 (original): The device of claim 78, wherein the ligand has a structure selected from the group consisting of:

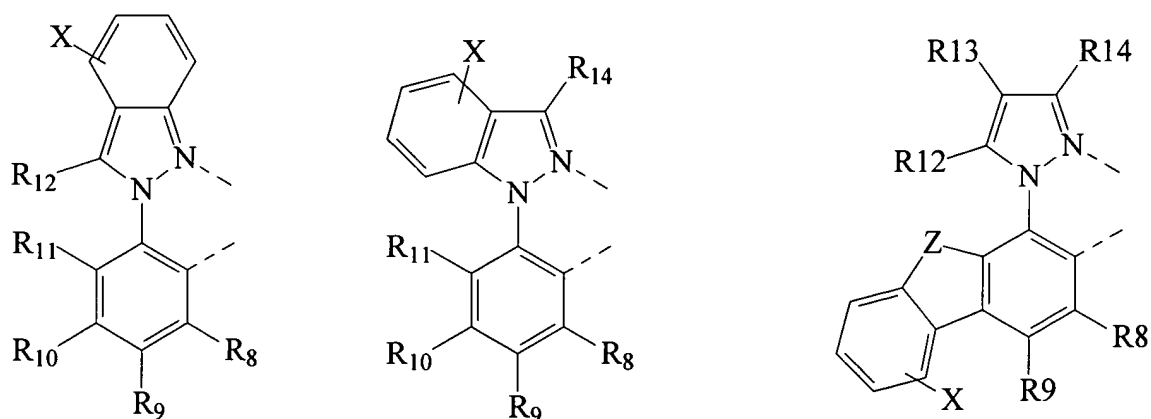


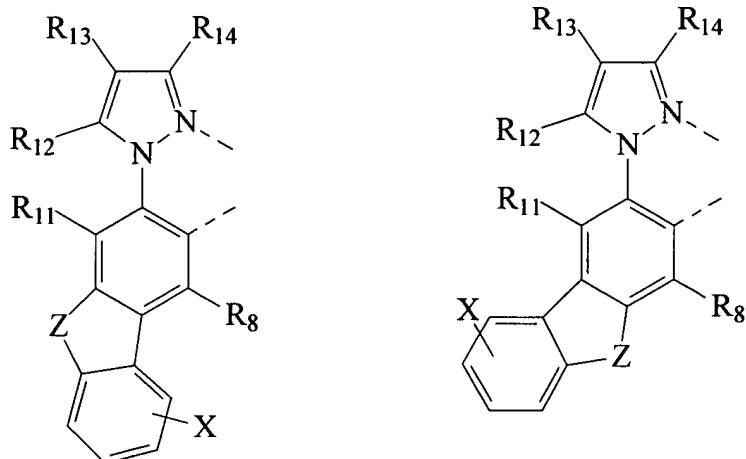


wherein X is independently selected from hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF₃, CO₂R, C(O)R, NR₂, NO₂, OR, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl, or a heterocyclic group;

additionally or alternatively, any two adjacent substituted positions together form, independently, a fused 4- to 7-member cyclic group, wherein said cyclic group is cycloalkyl, cycloheteroalkyl, aryl, or heteroaryl, and wherein the 4- to 7-member cyclic group may be further substituted by substituent X.

Claim 80 (original): The device of claim 74, wherein the compound has a structure selected from the group consisting of:





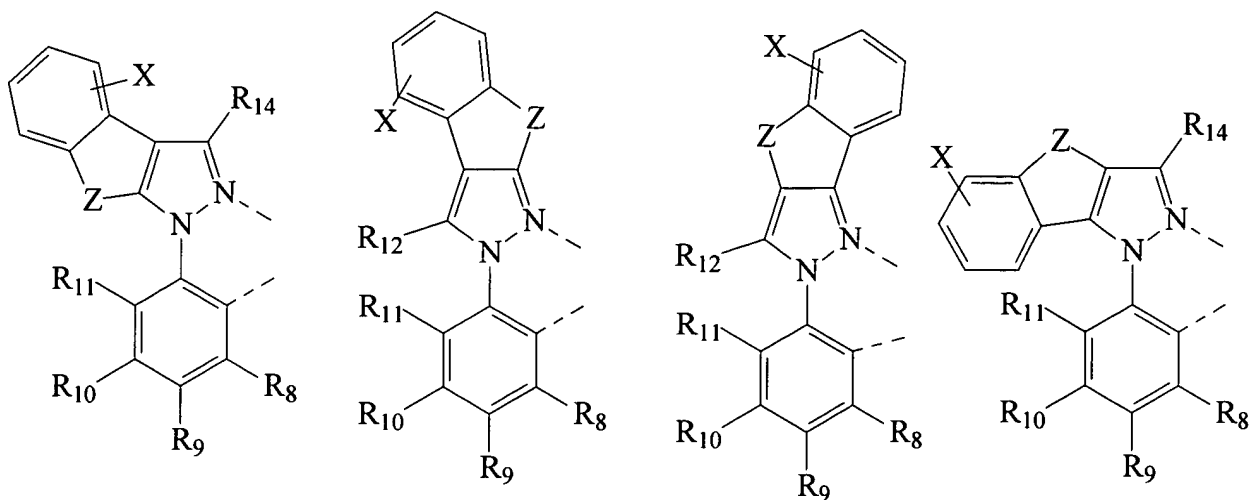
wherein

X is independently selected from hydrogen, alkyl, alkenyl, alkynyl, alkylaryl, CN, CF₃, CO₂R, C(O)R, NR₂, NO₂, OR, halo, aryl, heteroaryl, substituted aryl, substituted heteroaryl, or a heterocyclic group;

additionally or alternatively, any two adjacent substituted positions together form, independently, a fused 4- to 7-member cyclic group, wherein said cyclic group is cycloalkyl, cycloheteroalkyl, aryl, or heteroaryl, and wherein the 4- to 7-member cyclic group may be further substituted by substituent X;

Z is selected from -CH₂, -CRR, -NH, -NR, -O, -S, -SiR.

Claim 81 (currently amended): The device of claim 80, wherein the ligand has a structure selected from the group consisting of:



Claim 82 (original): The device of claim 74, wherein the ligand is a phosphorescent emissive ligand.

Claim 83 (currently amended): A The device of claim 74, wherein the ligand has a triplet energy corresponding to a wavelength less than 480 nm.

Claim 84 (currently amended): A The device of claim 74, wherein the first ligand has a triplet energy corresponding to a wavelength of 500-520 nm.

Claim 85 (currently amended): A The device of claim 74, wherein the first ligand has a triplet energy corresponding to a wavelength greater than 590 nm.

Claim 86 (original): The device of claim 74, wherein the device is incorporated into a consumer product.